Horizontal Wells 2017, 2017

Simulation design of PNL device for determining the spatial position of hydraulic fractures in three-dimensional space

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Abstract

The usage of modeling techniques allows to optimize the materials and construction of the neutron well logging apparatus and synthesized the recorded signal. This study focuses on modeling the construction of PNL device for determining the spatial position of hydraulic fractures in three-dimensional space. We used mathematical modeling by Monte Carlo method. PNL logs were synthesized, and it allowed to restore position of hydraulic fracture. The difference between angels simulated and the resulting equaled 3 degree, which confirms the possibility of using this technique.

http://dx.doi.org/10.3997/2214-4609.201700439

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